

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (previously presented) A system for recognizing a call switch-over to a CDMA 2000 1X system (1X system) when a call drop of a hybrid access terminal with respect to a CDMA 2000 1xEV-DO system (1xEV-DO system) occurs, the system comprising:

the hybrid access terminal operated in a 1X mode in relation to a 1X system for receiving a voice signal transmission service or a low-rate data transmission service from the 1X system and in a 1xEV-DO mode in relation to the 1xEV-DO system for receiving a high-rate data transmission service from the 1xEV-DO system, the hybrid access terminal in traffic with the 1xEV-DO system being switched into the 1X mode to perform a call connection with the 1X system and to transmit/receive voice and/or data to/from the 1X system when voice signals or low-rate data are received from the 1X system;

a 1X transceiver for transmitting/receiving voice signals and/or low-rate data to/from the hybrid access terminal;

a 1X controller for controlling a transmission service of the 1X transceiver;

a 1X mobile switching center for providing a communication access path of the 1X system for voice signals and/or low-rate data to/from the hybrid access terminal, storing information of the hybrid access terminal registered in the 1X mobile switching center in a home location register (HLR), and storing information of hybrid access terminals located in a region of the 1X mobile switching center;

a 1xEV-DO access network transceiver subsystem for transmitting/receiving high-rate data to/from the hybrid access terminal; and

a 1xEV-DO access network controller for

controlling a high-rate data transmission service of the 1xEV-DO access network transceiver subsystem,

detecting a call drop between the 1xEV-DO system and the hybrid access

terminal in traffic with the 1xEV-DO system, and

when the call drop is detected

transmitting a message to the 1X mobile switching center to inquire whether or not voice signals or low-rate data are received in the hybrid access terminal,

recognizing that the hybrid access terminal is switched into the 1X mode when a message confirming that voice signals or low-rate data are received in the hybrid access terminal is received from the 1X mobile switching center, and

storing the recognition information so that a user knows the reason for the call drop.

2. (previously presented) The system according to claim 1, wherein the hybrid access terminal receiving data in traffic with the 1xEV-DO system is periodically switched into the 1X mode in a predetermined period of time so as to check whether or not voice signals are received through the 1X system and returns to the 1xEV-DO mode.

3. (previously presented) The system according to claim 1, wherein the hybrid access terminal is set to the 1X mode in an idle state thereof in order to make communication with the 1X system and is periodically switched into the 1xEV-DO mode in a predetermined period of time so as to check whether or not data are received through the 1xEV-DO system and returns to the 1X mode.

4. **(currently amended)** The system according to claim 1, wherein the 1xEV-DO access network controller transmits a message inquiring whether or not voice signals are received in the hybrid access terminal to the 1X mobile switching center together with MIN (mobile identification number) and ESN (electrical serial number) information regarding the hybrid access terminal.

5. (previously presented) The system according to claim 1, wherein the hybrid access terminal is switched from the 1xEV-DO mode into the 1X mode by tracking frequency of the 1X

system using a searcher module under the control of a mobile station modem (MSM) chip.

6. (previously presented) The system according to claim 1, wherein a TDMA (time division multiple access) method is utilized in a case of a forward link transmitting data from the 1xEV-DO system to the hybrid access terminal, and a CDMA (code division multiple access) method is utilized in a case of a reverse link transmitting data from the hybrid access terminal to the 1xEV-DO system.

7. (previously presented) The system according to claim 6, wherein a hard handoff is carried out in case of the forward link, which transmits data from the 1xEV-DO system to the hybrid access terminal, by transmitting data with maximum power without performing power control, and a soft handoff is carried out in case of the reverse link while performing the power control with respect to each hybrid access terminal.

8. (previously presented) The system according to claim 7, wherein the forward link includes:

- a pilot channel used for transmitting a pilot signal allowing the 1xEV-DO system to track the hybrid access terminal;

- a MAC (medium access control) channel used for controlling the reverse link;

- a control channel used for transmitting a broadcast message or a direct message for directly controlling a specific hybrid access terminal from the 1xEV-DO system to the hybrid access terminal;
- and

- a traffic channel used for transmitting only packet data from the 1xEV-DO system to the hybrid access terminal.

9. (previously presented) The system according to claim 8, wherein the pilot channel is used as a reference for coherent detection of a wireless base station having the 1xEV-DO system by means of the hybrid access terminal.

10. (previously presented) The system according to claim 8, wherein the hybrid access

terminal receives at least one pilot signal through the pilot channel and accesses to a wireless base station, which has transmitted a pilot signal having greatest intensity.

11. (previously presented) The system according to claim 1, wherein the 1xEV-DO access network controller transmitting/receiving the high-rate data to/from the hybrid access terminal calculates a predetermined time when a call drop of the hybrid access terminal occurs, and determines whether or not a signal having a level below a predetermined level is received from the hybrid access terminal when the predetermined time lapses.

12. **(currently amended)** A method for recognizing a call switch-over from a CDMA 2000 1xEV-DO system (1xEV-DO system) to a CDMA 2000 1X system (1X system) when a hybrid access terminal is switched from a 1xEV-DO mode to a 1X mode,

wherein the 1X system comprises:

a base station comprising

a 1X transceiver for transmitting/receiving voice signals and/or low-rate data to/from the hybrid access terminal;

a 1X controller for controlling the 1X transceiver; and

a 1X mobile switching center for providing a communication access path of the 1X system for voice signals and/or low-rate data to/from the hybrid access terminal, storing information of the hybrid access terminal registered in the 1X mobile switching center in a home location register (HLR), and storing information of hybrid access terminals located in a region of the 1X mobile switching center;

wherein the 1xEV-DO system comprises, in said base station:

a 1xEV-DO access network transceiver subsystem for transmitting/receiving high-rate data to/from the hybrid access terminal; and

a 1xEV-DO access network controller for controlling the 1X transceiver;

the method comprising the steps of:

~~(a) sequentially initializing the 1X mode and the 1xEV-DO mode of the hybrid access terminal such that the hybrid access terminal stays in an idle state;~~

~~(b) performing dual monitoring with respect to the 1X mode and the 1xEV-DO mode by~~

~~using the hybrid access terminal in a state that the hybrid access terminal stays in the idle state;~~

[[c)] allowing the hybrid access terminal to make a call-connection with the 1xEV-DO system in the 1xEV-DO mode and enter a 1xEV-DO traffic state, thereby enabling the hybrid access terminal to transmit/receive high-rate data;

[[d)] performing the call switch-over by switching the hybrid access terminal from the 1xEV-DO mode to the 1X mode in response to voice signals and/or low-rate data received from the 1X system at the hybrid access terminal while the hybrid access terminal is being in the 1xEV-DO traffic state;

[[e)] detecting, by the 1xEV-DO access network controller, a call drop between the hybrid access terminal and the 1xEV-DO system as a result of said switching the hybrid access terminal from the 1xEV-DO mode to the 1X mode;

[[f)] when the call drop is detected by the 1xEV-DO access network controller, transmitting, by the 1xEV-DO access network controller, a first message to the 1X mobile switching center to inquire ~~inquiring~~ whether or not voice signals or low-rate data are received in the hybrid access terminal; from the 1xEV-DO system to a 1X mobile switching center of the 1X system; and

in response to the first message received at the 1X mobile switching center, sending, by the 1X mobile switching center, a second message to the 1xEV-DO access network controller to confirm ~~(g) receiving a message confirming~~ that voice signals or low-rate data are received in the hybrid access terminal; from the 1X mobile switching center to the 1xEV-DO system, and

recognizing, by the 1xEV-DO access network controller and based on the second message received at the 1xEV-DO access network controller, in the 1xEV-DO system that the hybrid access terminal has been switched from the 1xEV-DO mode to the 1X mode; [[,]] and

[[h)] storing, by the 1xEV-DO access network controller, the recognition information so that a user knows the reason for the call drop.

13. **(currently amended)** The method as claimed in claim 12, further comprising, prior to said allowing:

sequentially initializing the 1X mode and the 1xEV-DO mode of the hybrid access terminal such that the hybrid access terminal stays in an idle state;

performing dual monitoring with respect to the 1X mode and the 1xEV-DO mode while the

hybrid access terminal stays in the idle state;

wherein, ~~in step (a)~~, the hybrid access terminal initializes the 1xEV-DO mode by using system parameters obtained when initializing the 1X mode.

14. **(currently amended)** The method as claimed in claim 12, wherein, ~~in step (c)~~, the hybrid access terminal, while receiving data in traffic with the 1xEV-DO system, is periodically switched into the 1X mode in a predetermined period of time so as to check whether or not voice signals or low-rate data are received through the 1X system and then returns to the 1xEV-DO mode if no voice signals or low-rate data are received from the 1X system.

15. **(currently amended)** The method as claimed in claim 12, wherein, ~~in step (d)~~, the call switch-over from the 1xEV-DO mode into the 1X mode is performed by tracking a frequency of the 1X system using a searcher module under the control of a mobile station modem (MSM) chip accommodated in the hybrid access terminal.

16. **(currently amended)** The method as claimed in claim 12, wherein, ~~in step (f)~~, a the 1xEV-DO access network controller transmits ~~[[a]] the first message inquiring whether or not voice signals or low rate data are received in the hybrid access terminal to the 1X mobile switching center~~ together with MIN (mobile identification number) and ESN (electrical serial number) information regarding the hybrid access terminal to the 1X mobile switching center.

17. **(currently amended)** The method as claimed in claim 12, wherein, ~~in step (e)~~, the call-connection is performed after a connection and a session is set between the hybrid access terminal and the 1xEV-DO system.

18. **(currently amended)** The method as claimed in claim ~~[[12]]~~ 13, wherein, in ~~step (a)~~ said initializing, the hybrid access terminal is set to the 1X mode in ~~[[an]]~~ the idle state thereof in order to make communication with the 1X system and is periodically switched into the 1xEV-DO mode in a predetermined period of time so as to check whether or not high-rate data are received through the 1xEV-DO system, ~~in the 1X mode~~, and returns to the 1X mode if no high-rate data are

received from the 1xEV-DO system.

19. (original) The method as claimed in claim 17, wherein the session is set by requesting a unicast access terminal identifier (UATI) to the 1xEV-DO system and being assigned the UATI from the 1xEV-DO system, the UATI is an identifier (ID) of the hybrid access terminal representing a number assigned from the 1xEV-DO system to the hybrid access terminal, and a parameter, which is to be used in a setup of high-rate data call, power control and handoff, is set when the session is set between the hybrid access terminal and the 1xEV-DO system.

20. (original) The method as claimed in claim 12, wherein a TDMA (time division multiple access) method is utilized in a case of a forward link transmitting data from the 1xEV-DO system to the hybrid access terminal, and a CDMA (code division multiple access) method is utilized in a case of a reverse link transmitting data from the hybrid access terminal to the 1xEV-DO system.

21. (original) The method as claimed in claim 20, wherein the forward link includes:

- a pilot channel used for transmitting a pilot signal allowing the 1xEV-DO system to track the hybrid access terminal;

- a MAC (medium access control) channel used for controlling the reverse link;

- a control channel used for transmitting a broadcast message or a direct message for directly controlling a specific hybrid access terminal from the 1xEV-DO system to the hybrid access terminal;

and

- a traffic channel used for transmitting only packet data from the 1xEV-DO system to the hybrid access terminal.

22. (original) The method as claimed in claim 21, wherein the pilot channel is used as a reference for coherent detection of a wireless base station having the 1xEV-DO system by means of the hybrid access terminal.

23. (original) The method as claimed in claim 21, wherein the hybrid access

terminal receives at least one pilot signal through the pilot channel and accesses to a wireless base station, which has transmitted a pilot signal having greatest intensity.

24. (previously presented) The system according to claim 1, wherein the 1xEV-DO access network controller and the 1X mobile switching center are communicable with one another only during the inquiry whether or not voice signals or low-rate data are received in the hybrid access terminal, and not during normal voice signal or data transmission in the 1X mode or the 1xEV-DO mode.

25. (new) The method according to claim 12, further comprising referring, by the 1xEV-DO access network controller, to the stored recognition information when stopping a multimedia data transmission service to be provided to the hybrid access terminal, or making communication with the hybrid access terminal.

26. (new) The method according to claim 12, wherein the 1xEV-DO system and the 1X system are operated separately from each other, except only for the transmission of the first and second messages during the inquiry whether or not voice signals or low-rate data are received in the hybrid access terminal.